

VMware vSphere: Optimize and Scale plus Troubleshooting Fast Track [V6.0]

Duration: 5 Days

Overview:

This intense, hands-on, training course is a blend of the vSphere: Optimize & Scale and vSphere Troubleshooting classes; it brings the best of each of these advanced courses into a single unique offering that equips experienced VMware administrators with the knowledge to effectively optimize and troubleshoot vSphere at an expert level. It also provides excellent preparation for vSphere certifications such as the VCP-DCV, VCAP-DCA and the VCIX-DCV.

Objectives:

By the end of the course, you should be able to meet the following objectives:

- Configure and manage vSphere networking and storage for a large and sophisticated enterprise.
- Manage changes to the vSphere environment.
- Optimize the performance of all vSphere components.
- Use VMware vSphere® ESXi™ Shell and VMware vSphere® Management Assistant to manage vSphere
- Use VMware vSphere® Auto Deploy™ to provision ESXi hosts.
- Harden the vSphere environment against security threats.
- Use the VMware vSphere® Web Client, the command-line interface, and log files to diagnose and correct problems in vSphere.
- Troubleshoot networking, storage, vCenter Server, ESXi host, vSphere cluster, vMotion® & virtual machine issues.

Intended Audience:

- System Administrators
- System Integrators

Prerequisites: 1+ years hands on experience with vSphere.

Course Outline:

1. Course Introduction
 - Introductions and course logistics
 - Course goals and objectives
2. Performance in a Virtual Environment
 - vSphere performance troubleshooting methodology
 - Software and hardware virtualization techniques and their effects on performance.
 - Use vSphere performance monitoring tools
3. Troubleshooting Tools
 - Adding the VMware Management Assistant to an Active Directory environment
 - Using commands to interrogate your vSphere environment

- Locating important log files
- Gathering log bundles for technical support

4. Secure vSphere

- Describe the features and benefits of VMware Platform Services Controller™
- Configure ESXi host access and authorization
- Secure ESXi, vCenter Server, and virtual machines
- Upgrade ESXi and vCenter Server instances

5. Network Scalability

- Create, configure, and manage vSphere distributed switches
- Migrate virtual machines from standard switches to distributed switches
- Explain distributed switch features such as private VLANs, VMware vSphere® Network I/O Control, port mirroring, LACP, QoS tagging, and Net Flow

6. Network Optimization

- Explain the performance features of network adapters
- Explain the performance features of vSphere networking
- Monitor key network performance metrics
- Use vSphere Management Assistant to manage virtual network configurations
- Troubleshoot common network performance problems

7. Network Troubleshooting

- Troubleshooting standard switch issues
- Troubleshooting virtual machine network connectivity issues
- Troubleshooting management network connectivity issues
- Troubleshooting distributed switch issues

8. Storage Scalability

- Explain vSphere storage APIs for array integration and storage awareness
- Configure and assign virtual machine storage policies
- Configure VMware vSphere® Storage DRS™ and VMware vSphere® Storage I/O Control
- Create and use virtual volumes in vSphere

9. Storage Optimization

- Diagnose storage access problems
- Explain how storage protocols, VMware vSphere® VMFS configuration, load balancing, and queuing affect performance
- Configure vSphere® Flash Read Cache™
- Monitor key storage performance metrics
- Troubleshoot common storage performance problems

10. Storage Troubleshooting

- Troubleshooting LUN connectivity issues
- Troubleshooting multi pathing issues

11. CPU Optimization

- Explain the CPU scheduler operation, NUMA support, and other features that affect CPU performance
- Monitor key CPU performance metrics
- Troubleshoot common CPU performance problems

12. Memory Optimization

- Explain ballooning, memory compression, and host swapping techniques for memory reclamation when memory is overcommitted
- Monitor key memory performance metrics
- Troubleshoot common memory performance problems

13. VM and Cluster Optimization

- Describe guidelines for optimizing virtual machine configuration
- Discuss how vGPU usage affects virtual machine performance
- Discuss guidelines for using resource allocation settings & resource pools.
- Discuss guidelines for using vSphere DRS clusters
- Troubleshoot common vSphere cluster problems

14. Cluster Troubleshooting

- Troubleshooting vSphere cluster issues
- Troubleshooting vSphere vMotion issues

15. VM Troubleshooting

- Troubleshooting virtual machine state issues
- Troubleshooting VMware® Tools™ installation issues
- Troubleshooting VMware snapshot issues
- Troubleshooting virtual machine power-on issues

16. Host Management and Scalability

- Describe and use host profiles
- Define and use content libraries
- Use VMware vSphere® PowerCLI™
- Use Virtual Machine Converter
- Use VMware vSphere® ESXi™ Image Builder CLI and vSphere Auto Deploy

17. vCenter Server & ESXi Troubleshooting

- Troubleshooting vCenter Server & ESXi issues